

Amendments to the Specification:

Please replace the Title of Invention beginning at page 1, line 1, with the following rewritten Title:

~~--PLATING METHOD AND APPARATUS THAT CREATES A DIFFERENTIAL BETWEEN ADDITIVE DISPOSED ON A TOP SURFACE AND A CAVITY SURFACE OF A WORKPIECE USING AN INDIRECT EXTERNAL INFLUENCE~~ FOR FILLING LOW ASPECT RATIO CAVITIES WITH CONDUCTIVE MATERIAL AT HIGH RATE--

Please replace the paragraph beginning at page 1, line 7, with the following rewritten paragraph:

-- This application is a continuation-in-part of Appln No. 09/740,701 filed in the U.S. Patent & Trademark Office on December 18, 2000 entitled "PLATING METHOD AND APPARATUS THAT CREATES A DIFFERENTIAL BETWEEN ADDITIVE DISPOSED ON A TOP SURFACE AND A CAVITY SURFACE OF A WORKPIECE USING AN EXTERNAL INFLUENCE," now U.S. Patent No. 6,534,116 which is based on priority application 60/224,739 filed August 10, 2000.--

Please replace the paragraph beginning at page 9, line 16, with the following rewritten paragraph:

-- The anode assembly 19 can also be rotated around a second axis 10c at controlled speeds in both the clockwise and counter-clockwise directions. It is also understood that axes 10b and 10c are substantially parallel to each other. The gap between the wafer 16 and the pad 18 is adjustable by moving the carrier head 10 in the z direction. When the wafer 16 surface and the pad 18 are in contact, the pressure that is exerted on the two surfaces can also be adjusted. The co-pending U.S. Application Serial No. 09/511,278, entitled "Pad Designs and Structures for a Versatile Materials Processing Apparatus", filed February 23, 2000 now U.S. Patent No. 6,413,388, describes various shapes and forms of the holes in the pad 8, through which the electrolyte flows to the wafer surface.--

Please replace the paragraph beginning at page 10, line 24, with the following rewritten paragraph:

-- It is another object of the present invention to provide a method and apparatus that plates a conductive material in both small and large features of a substrate surface with greater efficiency, cost-savings, and superior quality than prior art methods and apparatus. It is yet another object of the present invention to provide a method and apparatus that plates a conductive material in small and large features while electrical power is locally pulsed on the substrate surface. --

Please replace the paragraph beginning at page 16, line 11, with the following rewritten paragraph:

-- Referring back to Fig. 7e, the time interval Δt (time between t_2 and t_3) is a function of the speed of the mask 40 as well as the size of the opening 42. In addition, Δt will be a small value if the mask 40 is moved rapidly in relation to the wafer 32. Also, if there are multiple openings in the mask 40 or if the movement of the mask 40 is back and forth, then the corresponding current vs. time plots would consist of multiple pulses. By controlling the size of the opening(s) on the mask 40 and the relative speed of the substrate and the mask, the shape, duration and repetition rate of the current pulses at any section on the substrate can be controlled. If the current mask-pulsed plating method is used with simple metal deposition electrolytes with no additives (i.e., inhibitors and accelerators), it would not be expected to be much different than conventional plating. This is because the size of the openings 42 in the mask 40 is much larger than the feature size on the wafer 32 surface. Therefore, when a section is exposed through the opening 42, regular plating would commence. However, if additives are added that influence polarization, then the mask-pulsed plating method can offer advantages that is not existent in conventional pulsed plating techniques.--

Please replace the paragraph beginning at page 17, line 10, with the following rewritten paragraph:

-- If, however, the mask-pulsed plating technique is used with the same electrolyte, the external influence on the top surface of the wafer 32 caused by, for example, the mask 40 that is disposed in proximity to the wafer 32, would clear away the additive A from the field regions. Both the small and large features, however, will still contain the adsorbed additive A since these features are further removed from the external influence than the top surface of the wafer 32. When a section of the wafer is suddenly exposed to the opening in the pad, the bottom and side surfaces of the features with the previously adsorbed additive A would immediately start plating at a higher rate than the field regions. If the time period Δt is less than the adsorption period required for the additive A to attach itself to the substrate surface, the applied plating current preferentially flows through the features to be filled, thereby yielding an enhanced deposition rate within the features in relation to the deposition rate on the field regions.--